

CLAIMS

What is claimed is:

- subray 1
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1. A method for maintaining a cluster definition for a network cluster having at least one member node, the method comprising:
- coupling the at least one member node to a shareable repository;
- storing a cluster definition for the network cluster in the shareable repository;
- selecting a coordinator node from the at least one member node of the network cluster;
- 10 a member node requesting a change to the cluster definition; and
- the coordinator node updating the cluster definition to reflect the requested change.
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2. The method of Claim 1 wherein requesting a change to the cluster definition includes:
- sending a proposed change to a scratch area; and
- setting a valid bit associated with the scratch area.
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3. The method of Claim 2 wherein updating the cluster definition includes:
- verifying the valid bit;
- setting an update flag;
- modifying the cluster definition to reflect the requested change;
- logging a progress of modifying the cluster definition in a log file in parallel with modifying the cluster definition;
- incrementing a version number associated with the shareable repository;
- and
- 25 clearing the valid bit and the update flag.

sub C¹ 7

4. The method of Claim 3 wherein modifying the cluster definition includes:
copying the proposed change from the scratch area to the cluster definition.

sub a⁵ 5

5. The method of Claim 1 further comprising:
requesting, by a potential member node, membership in the network cluster; and
accessing, by the potential member node, the cluster definition.

sub C⁶ 7

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6. The method of Claim 5 wherein accessing the cluster definition includes:
determining a version number of the shared repository to yield a first version number;
reading the cluster definition;
re-determining a version number of the shared repository to yield a second version number;
comparing the first version number with the second version number; and
repeating the step of accessing the cluster definition until the first version number equals the second version number.
7. The method of Claim 1 further comprising:
recovering from a failure of the coordinating node.

sub ab⁸ 20

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8. The method of Claim 7 wherein recovering includes:
selecting a new coordinator node from the member nodes of the network cluster,
completing, by the new coordinator node, an update of the cluster definition to reflect the requested change if there is a set valid bit and an incomplete log file in the shareable repository.

sub C 9.7
5 The method of Claim 8 wherein completing an update includes:
reading the incomplete log file; and
continuing the update of the cluster definition from a point, as indicated
by the incomplete log file, where the coordinating node ceased updating the
cluster definition due to the failure of the coordinating node.

sub-b1 10. The method of Claim 2 further including the step of:
re-requesting, by the member node, the change to the cluster definition if
after a period of time, the change is not made to the cluster definition.

sub-a7 10 11. An apparatus for updating a cluster definition for a network cluster having at
least one member node, comprising:
a shareable repository coupled to the at least one member node of the
cluster, the repository including the cluster definition and a proposed change to
the cluster definition; and
a coordinator node, selected from the at least one member node of the
network cluster, to update the cluster definition with the proposed change.
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12. The apparatus of Claim 12 further including:
a log file, indicating a progress of updating the cluster definition.

13. A computer program product for maintaining a cluster definition for a network
cluster having at least one member node, the computer program product
comprising a computer usable medium having computer readable code thereon,
including program code which:
20 couples the at least one member node to a shareable repository;
stores a cluster definition for the network cluster in the shareable
repository;

selects a coordinator node from the at least one member node of the network cluster; and

directs the coordinator node to update the cluster definition to reflect a requested change.

add a 8

a, Å ³	b, Å	c, Å	β, °	V, Å ³		Z	ρ, g/cm ³	d _{calc} , g/cm ³	d _{meas} , g/cm ³	d ₄ , g/cm ³	d ₂₅ , g/cm ³	d ₁₀₀ , g/cm ³	d ₂₀₀ , g/cm ³	d ₄₀₀ , g/cm ³	d ₈₀₀ , g/cm ³	d ₁₆₀₀ , g/cm ³	d ₃₂₀₀ , g/cm ³	d ₆₄₀₀ , g/cm ³	d ₁₂₈₀₀ , g/cm ³	d ₂₅₆₀₀ , g/cm ³	d ₅₁₂₀₀ , g/cm ³	d ₁₀₂₄₀₀ , g/cm ³	d ₂₀₄₈₀₀ , g/cm ³	d ₄₀₉₆₀₀ , g/cm ³	d ₈₁₉₂₀₀ , g/cm ³	d ₁₆₃₈₄₀₀ , g/cm ³	d ₃₂₇₆₈₀₀ , g/cm ³	d ₆₅₅₃₆₀₀ , g/cm ³	d ₁₃₁₀₇₂₀₀ , g/cm ³	d ₂₆₂₁₄₄₀₀ , g/cm ³	d ₅₂₄₂₈₈₀₀ , g/cm ³	d ₁₀₄₈₅₇₆₀₀ , g/cm ³	d ₂₀₉₇₁₅₂₀₀ , g/cm ³	d ₄₁₉₄₃₀₄₀₀ , g/cm ³	d ₈₃₈₈₆₀₈₀₀ , g/cm ³	d ₁₆₇₇₇₂₁₆₀₀ , g/cm ³	d ₃₃₅₅₄₄₃₂₀₀ , g/cm ³	d ₆₇₁₀₈₈₆₄₀₀ , g/cm ³	d ₁₃₄₂₁₇₇₂₈₀₀ , g/cm ³	d ₂₆₈₄₃₅₄₅₆₀₀ , g/cm ³	d ₅₃₆₈₇₀₉₁₂₀₀ , g/cm ³	d ₁₀₇₃₇₄₁₈₂₄₀₀ , g/cm ³	d ₂₁₄₇₄₈₃₆₄₈₀₀ , g/cm ³	d ₄₂₉₄₉₆₇₂₉₆₀₀ , g/cm ³	d ₈₅₈₉₉₃₄₅₉₂₀₀ , g/cm ³	d ₁₇₁₇₉₈₆₉₁₈₄₀₀ , g/cm ³	d ₃₄₃₅₉₇₃₈₃₆₈₀₀ , g/cm ³	d ₆₈₇₁₉₄₇₆₇₃₆₀₀ , g/cm ³	d ₁₃₇₄₃₈₉₅₃₄₇₂₀₀ , g/cm ³	d ₂₇₄₈₇₇₉₀₆₉₄₄₀₀ , g/cm ³	d ₅₄₉₇₅₅₈₁₃₈₈₈₀₀ , g/cm ³	d ₁₀₉₉₅₁₁₆₂₇₇₇₆₀₀ , g/cm ³	d ₂₁₉₉₀₂₃₂₅₅₅₅₂₀₀ , g/cm ³	d ₄₃₉₈₀₄₆₅₁₁₁₀₄₀₀ , g/cm ³	d ₈₇₉₆₀₉₃₀₂₂₂₀₈₀₀ , g/cm ³	d ₁₇₅₉₂₁₈₆₀₄₄₄₁₆₀₀ , g/cm ³	d ₃₅₁₈₄₃₇₂₀₈₈₈₃₂₀₀ , g/cm ³	d ₇₀₃₆₈₇₄₄₁₇₇₆₆₄₀₀ , g/cm ³	d ₁₄₀₇₃₇₄₈₈₃₅₅₃₂₈₀₀ , g/cm ³	d ₂₈₁₄₇₄₉₇₆₇₁₀₆₅₆₀₀ , g/cm ³	d ₅₆₂₉₄₉₉₅₃₄₂₁₃₁₂₀₀ , g/cm ³	d ₁₁₂₅₈₉₉₉₀₆₈₄₂₆₂₄₀₀ , g/cm ³	d ₂₂₅₁₇₉₉₈₁₃₆₈₅₂₄₈₀₀ , g/cm ³	d ₄₅₀₃₅₉₉₆₂₇₃₇₀₄₉₆₀₀ , g/cm ³	d ₉₀₀₇₁₉₉₂₅₄₇₄₀₉₉₂₀₀ , g/cm ³	d ₁₈₀₁₄₃₉₈₅₀₉₄₈₁₉₈₄₀₀ , g/cm ³	d ₃₆₀₂₈₇₉₇₀₁₈₉₆₃₉₆₈₀₀ , g/cm ³	d ₇₂₀₅₇₅₉₄₀₃₇₉₂₇₉₃₆₀₀ , g/cm ³	d ₁₄₄₁₁₅₁₈₈₀₇₅₈₅₅₈₇₂₀₀ , g/cm ³	d ₂₈₈₂₃₀₃₇₆₁₅₁₇₁₁₇₄₄₀₀ , g/cm ³	d ₅₇₆₄₆₀₇₅₂₃₀₃₄₂₃₄₈₈₀₀ , g/cm ³	d ₁₁₅₂₉₂₁₅₀₄₆₀₆₈₄₆₉₇₆₀₀ , g/cm ³	d ₂₃₀₅₈₄₃₀₀₉₂₁₃₆₉₃₉₅₂₀₀ , g/cm ³	d ₄₆₁₁₆₈₆₀₁₈₄₂₇₃₈₇₉₀₄₀₀ , g/cm ³	d ₉₂₂₃₃₇₂₀₃₆₈₅₄₇₇₅₈₀₈₀₀ , g/cm ³	d ₁₈₄₄₆₇₄₄₀₇₃₇₀₉₅₅₁₆₁₆₀₀ , g/cm ³	d ₃₆₈₉₃₄₈₈₁₄₇₄₁₉₁₀₃₂₃₂₀₀ , g/cm ³	d ₇₃₇₈₆₉₇₆₂₉₄₈₃₈₂₀₆₄₆₄₀₀ , g/cm ³	d ₁₄₇₅₇₃₉₅₂₅₈₉₆₇₆₄₁₂₉₂₈₀₀ , g/cm ³	d ₂₉₅₁₄₇₉₀₅₁₇₉₃₅₂₈₂₅₈₅₆₀₀ , g/cm ³	d ₅₉₀₂₉₅₈₁₀₃₅₈₇₀₅₆₅₁₇₁₂₀₀ , g/cm ³	d ₁₁₈₀₅₉₁₆₂₀₇₁₇₄₁₁₃₀₃₄₂₄₀₀ , g/cm ³	d ₂₃₆₁₁₈₃₂₄₁₄₃₄₈₂₂₆₀₆₈₄₈₀₀ , g/cm ³	d ₄₇₂₂₃₆₆₄₈₂₈₆₉₆₄₅₂₁₃₆₉₆₀₀ , g/cm ³	d ₉₄₄₄₇₃₂₉₆₅₇₃₉₂₉₀₄₂₇₃₉₂₀₀ , g/cm ³	d ₁₈₈₈₉₄₆₅₉₃₁₄₇₈₅₈₀₈₅₄₇₈₄₀₀ , g/cm ³	d ₃₇₇₇₈₉₃₁₈₆₂₉₅₇₁₆₁₇₀₉₅₆₈₀₀ , g/cm ³	d ₇₅₅₅₇₈₆₃₇₂₅₉₁₄₃₂₃₄₁₉₁₃₆₀₀ , g/cm ³	d ₁₅₁₁₁₅₇₂₇₄₅₁₈₂₈₆₄₆₈₃₈₂₇₂₀₀ , g/cm ³	d ₃₀₂₂₃₁₄₅₄₉₀₃₆₅₇₂₉₃₆₇₆₅₄₄₀₀ , g/cm ³	d ₆₀₄₄₆₂₉₀₉₈₀₇₃₁₄₅₈₇₃₅₃₀₈₈₀₀ , g/cm ³	d ₁₂₀₈₉₂₅₈₁₉₆₁₄₆₂₉₁₇₄₇₀₆₁₇₆₀₀ , g/cm ³	d ₂₄₁₇₈₅₁₆₃₉₂₂₉₂₅₈₃₄₉₄₁₂₃₅₂₀₀ , g/cm ³	d ₄₈₃₅₇₀₃₂₇₈₄₅₈₅₁₆₆₉₈₈₂₄₇₀₄₀₀ , g/cm ³	d ₉₆₇₁₄₀₆₅₅₆₉₁₇₀₃₃₃₉₇₆₄₉₄₀₈₀₀ , g/cm ³	d ₁₉₃₄₂₈₁₃₁₁₃₈₃₄₀₆₆₇₉₅₂₉₈₈₁₆₀₀ , g/cm ³	d ₃₈₆₈₅₆₂₆₂₂₇₆₆₈₁₃₃₅₉₀₅₉₇₆₃₂₀₀ , g/cm ³	d ₇₇₃₇₁₂₅₂₄₅₅₃₃₆₂₆₇₁₈₁₁₉₅₂₆₄₀₀ , g/cm ³	d ₁₅₄₇₄₂₅₀₄₉₁₀₆₇₂₅₃₄₃₆₂₃₉₀₅₂₈₀₀ , g/cm ³	d ₃₀₉₄₈₅₀₀₉₈₂₁₃₄₅₀₆₈₇₂₄₇₈₁₀₅₆₀₀ , g/cm ³	d ₆₁₈₉₇₀₀₁₉₆₄₂₆₉₀₁₃₇₄₄₉₅₆₂₁₁₂₀₀ , g/cm ³	d ₁₂₃₇₉₄₀₀₃₉₂₈₅₃₈₀₂₇₄₈₉₉₁₂₄₂₂₄₀₀ , g/cm ³	d ₂₄₇₅₈₈₀₀₇₈₅₇₀₇₆₀₅₄₉₇₉₈₂₄₈₄₄₈₀₀ , g/cm ³	d ₄₉₅₁₇₆₀₁₅₇₁₄₁₅₂₁₀₉₉₅₉₆₄₉₆₈₉₆₀₀ , g/cm ³	d ₉₉₀₃₅₂₀₃₁₄₂₈₃₀₄₂₁₉₉₁₉₂₉₉₃₇₉₂₀₀ , g/cm ³	d ₁₉₈₀₇₀₄₀₆₂₈₅₆₆₀₈₄₃₉₈₃₈₅₉₈₇₅₈₄₀₀ , g/cm ³	d ₃₉₆₁₄₀₈₁₂₅
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